UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

	Application No.	Applicant(s)
	10/539,494	JOEST, PETER
Office Action Summary	Examiner	Art Unit	
	JASON MITCHELL	2193	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>28 December 2005</u>.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>19-36</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>19-36</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on <u>17 June 2009</u> is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☒ All   b)☐ Some * c)☐ None of:

      1.☒ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date <u>6/17/09</u>.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

DETAILED ACTION

This action is in response to an application filed on 12/28/05.

Claims 19-36 are pending in this application.

Information Disclosure Statement

The information disclosure statement filed 6/17/09 fails to comply with 37 CFR 1.98(a)(2), which requires a legible copy of each cited foreign patent document; each non-patent literature publication or that portion which caused it to be listed; and all other information or that portion which caused it to be listed. Specifically, no copy of "Maintainable Ros Code Through The Combination of ROM and EEPROM" has been provided. All other references cited have been considered.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 31 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Claim 31 recites "the first memory area and the second memory area are divided into two software sections of equal size" The specification does not describe the

creation and use of two (and only two) equally sized sections in such a way that one of

ordinary skill would be able to implement the claimed method without undue

experimentation. For example, there is no indication of when or why the claimed

sections would be used. Accordingly a skilled artisan could not reliably implement an

algorithm to perform the method. Pg. 10 lines 20-32 disclose:

> … It may be advantageous, however, to use software sections of equal size for the
> first and the second memory area and always to exchange such complete software
> sections as a data record or to replace the old software parts by the new.

It is the examiner understanding that this describes memory sections which are

divided into uniform blocks of memory. Further, it is believed that this disclosure fully

enables the creation and use of a system in which software is updated in units of these

blocks (e.g. replacing the execution of block X with the execution of block X'). This is the

interpretation which will be applied to the claim for the purposes of examination.

Claims 29 and 31 are rejected under 35 U.S.C. 112, second paragraph, as

being indefinite for failing to particularly point out and distinctly claim the subject

matter which applicant regards as the invention.

Claim 29 recites the limitation "and the at least two new software parts" in lines

1-2. There is insufficient antecedent basis for this limitation in the claim. For the

purposes of this examination the claim will be treated as reading "and at least two new

software parts".

Further, claim 29 recites "at least two old software parts and [] at least two new

software parts ... the addresses being respectively integrated into one data record". It is

not clear what is being 'integrated' here. For example, it is not clear if the respective

'start addresses' for the two new software parts are integrated into a single record or if

the addresses for each of the software parts are integrated into a single record. For the

purposes of this examination the claim will be given the later interpretation.

Claim 31 recites "the first memory area and the second memory area are divided

into two software sections of equal size". This language makes it unclear how many

sections exist and exactly what there ultimate distribution is. For example the claim

could be read as describing a system in which the first memory area and the second

memory each contain the same total number of blocks or where each section is divided

in half. Neither of these exemplary interpretations appears to be supported in the

specification.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claim 36 is rejected under 35 U.S.C. 101 because the claimed invention is

directed to non-statutory subject matter.

Claim 36 fails to fall within a statutory category of invention. It is directed to a

program itself (i.e. "A computer program"), not a process occurring as a result of

executing the program, a machine programmed to operate in accordance with the

program or a manufacture structurally and functionally interconnected with the program

in a manner which enables the program to act as a computer component and realize its

functionality. It's also clearly not directed to a composition of matter. Therefor it is

rejected as being non-statutory under 35 USC 101.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 19-26, 30 and 34-36 are rejected under 35 U.S.C. 102(e) as being

anticipated by US 6,760,908 to Ren (Ren).

Regarding Claims 19 and 34-36: Ren discloses a method for changing software in a

first memory area in a control unit for controlling operational sequences, the method

comprising:

replacing execution of old software parts with execution of new software parts

(col. 5, lines 5-6 "The software patch is then used for execution instead of using the

program codes in S2."); and

writing the old software parts into the first memory area (col. 4, lines 8-10 "A

software program resides in FLASH/ROM memory 115");

wherein the new software parts are written into a second memory area (col. 4,

lines 37-40 "writing patch data into the patch database 310") and, due to a first

branching in the first memory area (col. 5, lines 48-53 "directs CPU/DSP execution to

jump 506 to the start address 502 of patch program 507"), instead of the old software

parts being executed in the first memory area, the new software parts are executed in

the second memory area (col. 5, lines 5-6 "The software patch is then used for

execution instead of using the program codes in S2."), the control unit, following the

execution of the new software parts, branching back again into the first memory area via

a second branching in the second memory area and the execution of the other software

distinct from the old software parts being continued in the first memory area, the old

software parts remaining in the first memory area (col. 5, lines 55-59 "After executing

the patch program 507 … jump 508 to a predetermined place in the original software").

Regarding Claim 20: The rejection of claim 19 is incorporated; further Ren discloses

the second memory area is only used to receive the new software parts (col. 4, lines 37-

40 "the patch database 310").

Regarding Claim 21: The rejection of claim 19 is incorporated; further Ren discloses

the first branching and the second branching are implemented by at least one chained

list (col. 6, lines 25-30 "using an intermediate step, such as the Patch_Control_Routine

609, for directing CPU/DSP instruction pointer to jump to the start address 602 of patch

program 607").

Regarding Claim 22: The rejection of claim 19 is incorporated; further Ren discloses as

a first branching a start address of the new software parts is used, this being used to

overwrite at least partially the old software parts (col. 8, lines 43-48 "instruction of the

Update-Processing-Routine will be changed, so that the CPU/DSP execution will be

directed to the start address of the ... patch program").

Regarding Claim 23: The rejection of claim 19 is incorporated; further Ren discloses as

the second branching a start address of the additional software distinct form the old

software parts is used (col. 5, lines 55-59 "After executing the patch program 507 ...

jump 508 to a predetermined place in the original software").

Regarding Claim 24: The rejection of claim 19 is incorporated; further Ren discloses

the new software parts contain information that indicate which old software parts are to

be replaced (col. 18, lines 26-27 "Software Section Identifiers of the software sections

that are updated by this patch").

Regarding Claim 25: The rejection of claim 19 is incorporated; further Ren discloses

the new software parts contain information that indicate by which new software parts the

old software parts are to be replaced (col. 18, lines 12-15 "Address information of patch

data").

Regarding Claim 26: The rejection of claim 19 is incorporated; further Ren discloses

the second memory area, in addition to at least one new software part (col. 8, lines 16-

17 "Patch program codes"), contains an address for the first branching (col. 18, lines 55-

63 "The patch program contains … a Patch Start Address"), an address for the second

branching (col. 18, lines 55-63 "The patch program contains … an instruction for

jumping back to a predetermined place in the embedded software") and an address for

the start of the old software part, which is to be replaced by the at least one new

software part (col. 18, lines 26-27 "Software Section Identifiers of the software sections

that are updated by this patch").

Regarding Claim 30: The rejection of claim 19 is incorporated; further Ren discloses as

the first memory area a first table and as the second memory area a second table are

provided in the same memory (col. 6, lines 41-43 "Memory area for containing patch

program codes can be allocated … at a place inside of the embedded software code

area").

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

Claim 31 is rejected under 35 U.S.C. 103(a) as being unpatentable over US 6,760,908 to Ren (Ren) in view of US 5,802,549 to Goyle et al. (Goyle).

Regarding Claim 31: The rejection of claim 19 is incorporated; further Ren does not disclose the first memory area and the second memory area are divided into two software sections of equal size, a new software part being written into each software section of the second memory area.

Goyal teaches a memory patching method in which first and second memories are divided into software sections of equal size and patches are applied to whole sections (col. 1, lines 43-48 "For each page of ROM to be updated, i.e., patched, a page in RAM is reserved").

It would have been obvious to one of ordinary skill in the art at the time the invention was made to divide Ren's first and second memory areas (Fig. 2, RAM 240 & FLASH/ROM 245) into uniform sections (Goyal col. 1, lines 43-48 "page of ROM ... page in RAM") wherein patching the old software comprises patching an entire section (Goyal col. 1, lines 46-49 "the reserved RAM page is read instead of the corresponding ROM page"). Those of ordinary skill in the art would have been motivated to do so as a known alternative method of implementing the functionality disclosed by Ren which would only produce the expected results (col. 5, lines 13-22 "Determining locations of L1, L2, ..., Ln and partitioning embedded software into software sections ... can be

based on ... hardware design schemes ... as can be appreciated by those skilled in the art").

Claims 27-29 and 32-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 6,760,908 to Ren (Ren) in view of US 6,076,134 to Nagae (Nagae).

Regarding Claim 27: The rejection of claim 26 is incorporated; further Ren does not disclose the second memory area furthermore contains the length of at least one of the at least one new software part and of the at least one old software part.

Nagae teaches a second memory area furthermore contains the length of at least one of the at least one new software part and of the at least one old software part (col. 4, lines 8-13 "The patch table 21 comprises ... data length DL").

It would have been obvious to one of ordinary skill in the art at the time the invention was made to include length data in Ren's patch table (col. 4, lines 37-40 "writing patch data into the patch database 310") as taught by Nagae (col. 4, lines 8-13 "The patch table 21 comprises ... data length DL"). Those of ordinary skill in the art would have been motivated to do so as a known alternate implementation which would have provided the additional benefit of eased access to the patch data (Ren col. 5, lines 13-22 "Size of a software section may not be a fixed number ... can be based on ... number of lines of program lines"'; col. 18, lines 28-29 "Other information to describe

patch program and data area update"; Nagae col. 4, lines 8-13 "The patch table 21

comprises variable length records").

Regarding Claim 28: The rejection of claim 27 is incorporated; further Ren discloses

the addresses are integrated into a data record in the second memory area (col. 18,

lines 12-15 "Address information of patch data").

Regarding Claim 29: The rejection of claim 28 is incorporated; further Ren discloses at

least two old software parts and the at least two new software parts, which replace

these, are provided (col. 6, lines 15-18 "a list of identifiers of the patches"; discloses

plural patches), the addresses being respectively integrated into one data record and

written into the second memory area (col. 18, lines 12-15 "Address information of patch

data").

Regarding Claim 32: The rejection of claim 28 is incorporated; further Ren discloses

every data record or every software section is provided with an identification (col. 4,

lines 55-57 "The locations can be expressed by L1, L2, ..., Ln, in the order from small

address to large address").

Regarding Claim 33: The rejection of claim 32 is incorporated; further Ren does not

disclose the identification for a software section in the first memory area, which contains

an old software part, and the identification for the corresponding software section having

the new software part, which replaces the old software part, are the same.

Nagae teaches patch data wherein the identification for an old software section and the

identification of a new software section are the same (e.g. Fig. 3, col. 212 "ID"; col. 4,

24-28 "Each identifier ID in column 212 … includes an identification code for identifying

an object program to be patched").

It would have been obvious to one of ordinary skill in the art at the time the invention

was made to use the same identifier (Nagae col. 4, 24-28 "Each identifier ID in column

212 … includes an identification code for identifying an object program to be patched")

in Ren's patch data (col. 20, lines 14-16 "The patch identification information may

include … Patch Identifier, and software section identifier"). Those of ordinary skill in the

art would have been motivated to do so and an alternate implementation which would,

at least, reduce the size of the patch table and indicated the necessary correspondence

between patches and software sections (col. 6, lines 14-19 "a list of identifiers of the

patches … and/or a list of the corresponding identifiers of the software sections").

Conclusion

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to JASON MITCHELL whose telephone number is

(571)272-3728. The examiner can normally be reached on Monday-Thursday and alternate Fridays 7:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bullock Lewis can be reached on (571) 272-3759. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jason Mitchell/
Primary Examiner, Art Unit 2193